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Notice of Allowability	Application No.	Applicant(s)	
	10/612,529	SNODGRASS ET AL.	
	Examiner	Art Unit	
	Isaac T. Tecklu	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *09/05/2007*.

2. ☒ The allowed claim(s) is/are *1-31 (renumbered as 1-31)*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

TUAN DAM
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

1. This action is responsive to the applicant's amendment filed on 09/05/2007.

2. Claims 9-11 and 27-28 have been amended.

3. New claim 31 has been added.

4. Claims 1-31 are being allowed.

EXAMINER'S AMENDMENT

5. An examiner's amendment to the record appear below. Should the change and/or additions be unacceptable to the Applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such amendment, it MUST be submitted no later than the payment of issue fee.

Authorization for examiner's amendment was given in a telephone interview with Ronald J. Schoenbaum, Registration No. 38, 297 on November 5, 2007. A proposed amendment has been received and adopted by the Examiner - See attached on pages 5-9.

--End--

Allowable Subject Matter

6. The following is an examiner's statement of reasons for allowance:

As applicant pointed out under Remark section, pages 7-9, Matsuoka et al. (US 2002/0010753 A1) taken either singly and/or in combination with other cited prior arts, do not monitor the operation of the template processor over time and generates a mapping of page tasks to corresponding service calls that are made as part of such page generation tasks; and identify a set of service requests to be made preemptively, such that service content that is deemed likely to be used by the template processor to generate the requested page is prefetched, as recited in such manners in each of independent claims 1, 9 and 17.

Prior arts of record do not teach and/or suggest these claimed limitations, thus, all remaining pending claims 1-31 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isaac Tecklu whose telephone number is (571) 272-7957. The examiner can normally be reached on M-TH 9:300A - 8:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isaac Tecklu
Art Unit 2192

TUAN DAM
SUPERVISORY PATENT EXAMINER

1. (original) A dynamic web page generation system, comprising:

a template processor that generates dynamic web pages according to corresponding web page templates in response to page requests from browsers, wherein the template processor generates service requests to request content from a set of services, and uses the content returned by such services to generate the web pages according to corresponding web page templates;

a monitoring component that monitors the operation of the template processor over time and generates a mapping of page generation tasks to corresponding service calls that are made as part of such page generation tasks; and

a prefetch component that is responsive to a page request from a browser by using the mapping to identify a set of service requests to be made preemptively, such that service content that is deemed likely to be used by the template processor to generate the requested page is prefetched.

2. (original) The dynamic web page generation system of Claim 1, wherein the mapping comprises a table that maps URLs to service requests frequently used to respond to requests for such URLs.

3. (original) The dynamic web page generation system of Claim 1, wherein the monitoring component updates the mapping substantially in real time to reflect service requests actually used to generate requested web pages, such that service request predictions made by the prefetch component adapt automatically in response to page generation events.

4. (original) The dynamic web page generation system of Claim 1, wherein the prefetch and monitoring components include a prefetch client component that communicates with a prefetch service component, wherein the prefetch client component is responsive to the page request by retrieving from the prefetch service component a listing of service requests associated with the page request, as reflected in the mapping.

5. (original) The dynamic web page generation system of Claim 4, wherein the prefetch client is configured to send feedback messages to the prefetch service component identifying the service requests actually used to generate requested pages, and the prefetch service component updates the mapping to reflect the feedback messages.

6. (original) The dynamic web page generation system of Claim 1, wherein the monitoring component comprises an off-line analysis component that analyzes service request activity data collected over time to regenerate and/or update said mapping.

7. (previously presented) The dynamic web page generation system of Claim 1, wherein the monitoring component and the prefetch component collectively operate so as to allow a second service request that is dependent upon a result of a first service request to be performed in parallel with the first service request, such that a latency caused by the chaining of dependent service requests is substantially reduced.

8. (previously presented) The dynamic web page generation system of Claim 1, wherein the prefetch component takes service load conditions into consideration in determining whether to make the service requests preemptively, so that unnecessary service requests are reduced during heavy service load conditions.

9. (currently amended) A method ~~for reducing dynamic document generation times~~ of dynamically generating web pages, comprising:

for at least one ~~document~~ web page generation task, monitoring the performance of the task over time to generate a mapping reflective of frequencies with which specific data retrieval subtasks are performed as part of the ~~document~~ web page generation task;

receiving a ~~document~~ page request that corresponds to the ~~document~~ web page generation task;

in response to receiving the ~~document~~ page request, using said mapping to identify a set of data retrieval subtasks that are deemed likely to be performed as part of the ~~document~~ web page generation task to generate ~~the~~ a requested ~~document~~ web page; ~~and~~

initiating at least some of the data retrieval subtasks in said set before they are initiated as the result of the performance of the ~~document~~ web page generation task, to thereby prefetch data that is deemed likely to be used to generate the requested ~~document~~ web page; and

with a template processor, generating the web page according to a template such that at least some of the prefetched data is used to generate the web page.

10. (currently amended) The method of Claim 9, wherein the mapping comprises a table that maps ~~document~~ web page generation tasks to respective sets of subtasks.

11. (currently amended) The method of Claim 9, wherein the step of using the mapping to identify a set of data retrieval subtasks comprises looking up said set of data retrieval subtasks from a table that maps ~~document~~ web page generation tasks to corresponding subtasks.

12. (previously presented) The method of Claim 9, wherein the method comprises performing a second data retrieval subtask that is dependent upon a result of a first data retrieval subtask without waiting for the first data retrieval subtask to be completed.

13. (original) The method of Claim 9, wherein at least some of the data retrieval subtasks in said set are service requests.

14. (currently amended) The method of Claim 9, wherein the ~~document~~ web page generation task corresponds to a particular dynamically generated web page.

15. (currently amended) The method of Claim 9, wherein the ~~document~~ web page generation task corresponds to a plurality of related web pages.

16. (original) The method of Claim 9, wherein the step of initiating at least some of the data retrieval subtasks comprises selecting subtasks to perform preemptively based at least in-part on current load conditions.

17. (original) A dynamic document generation system, comprising:

a template processor that generates documents according to corresponding document templates in response to document requests from client computers, wherein the template processor performs data retrieval subtasks to retrieve data used to dynamically generate the documents;

a monitoring component that monitors the template processor over time and generates a mapping of document generation tasks to corresponding subtasks that are performed as part of such document generation tasks; and

a prefetch component that is responsive to a document request from a client computer by using the mapping to identify a set of data retrieval subtasks to be performed preemptively, such that data retrieval subtasks that are otherwise performed sequentially may be performed in parallel.

18. (original) The dynamic document generation system of Claim 17, wherein the mapping comprises a table that maps URLs to data retrieval subtasks frequently used to respond to requests for such URLs.

19. (original) The dynamic document generation system of Claim 18, wherein at least some of the data retrieval subtasks that are performed preemptively are service requests.

20. (original) The dynamic document generation system of Claim 17, wherein the monitoring component updates the mapping in real time to reflect data retrieval subtasks actually used to generate requested documents.

21. (original) The dynamic document generation system of Claim 17, wherein the prefetch component comprises a prefetch client component that communicates with a prefetch service component, wherein the prefetch client component is responsive to the document request by retrieving from the prefetch service component a listing of data retrieval subtasks that are deemed likely to be used to respond to the document request, as reflected in the mapping.

22. (original) The dynamic document generation system of Claim 17, wherein the monitoring component comprises a prefetch client component that communicates with a prefetch service component, wherein the prefetch client component is configured to send feedback messages to the prefetch service component identifying the data retrieval subtasks actually used to generate requested documents, and the prefetch service component updates the mapping to reflect the feedback messages.

23. (original) The dynamic document generation system of Claim 17, wherein the monitoring component comprises an off-line analysis component that analyzes task activity data collected over time to generate and/or update said mapping.

24. (original) The dynamic document generation system of Claim 17, wherein the prefetch component determines whether to perform a data retrieval subtask preemptively based at least in part on current load conditions.

25. (previously presented) The dynamic document generation system of Claim 17, wherein, by identifying data retrieval subtasks to be performed preemptively, the prefetch component causes document generation delays caused by data retrieval subtask dependencies to be reduced.

26. (previously presented) The dynamic web page generation system of Claim 1, wherein, by identifying service requests to be made preemptively, the prefetch component enables web page generation delays caused by service request dependencies to be reduced.

27. (currently amended) The method of Claim 9, wherein the method enables a ~~document~~ web page generation delay caused by data retrieval subtask dependencies to be reduced.

28. (currently amended) The method of Claim 9, wherein, by identifying the set of data retrieval subtasks that are deemed likely to be performed as part of the ~~document~~ web page generation task, the method enables data retrieval subtasks that would otherwise be performed sequentially to be performed in parallel, such that a ~~document~~ web page generation time is reduced.

29. (previously presented) The dynamic web page generation system of Claim 1, wherein, by identifying the set of service requests to be made preemptively, the system enables service requests that would otherwise be performed sequentially to be performed in parallel, such that a page generation time is reduced.

30. (previously presented) The dynamic document generation system of Claim 17, wherein, by identifying the set of data retrieval subtasks to be performed preemptively, the system causes data retrieval subtasks that would otherwise be performed sequentially to be performed in parallel, such that a document generation time is reduced.

31. (new) The method of Claim 9, wherein the template processor additionally uses non-prefetched data to generate the requested web page.